



Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Capps Creek

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#### Water Body Segment at a Glance:

<b>Counties:</b>	Barry and Newton
<b>Nearby Cities:</b>	Pulaskifield, Pierce City
<b>Length of impaired segment:</b>	4.0 miles
<b>Pollutant:</b>	Bacteria
<b>Source:</b>	Rural Nonpoint Source
<b>Water Body ID:</b>	3234



State Map Showing Location of Watershed

**Scheduled for TMDL development: 2013**

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#### Description of the Problem

##### Beneficial uses of Capps Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category A
- Secondary Contact Recreation
- Public Drinking Water Supply
- Irrigation

##### Use that is impaired

- Whole Body Contact Recreation – Category A

##### Standards that apply

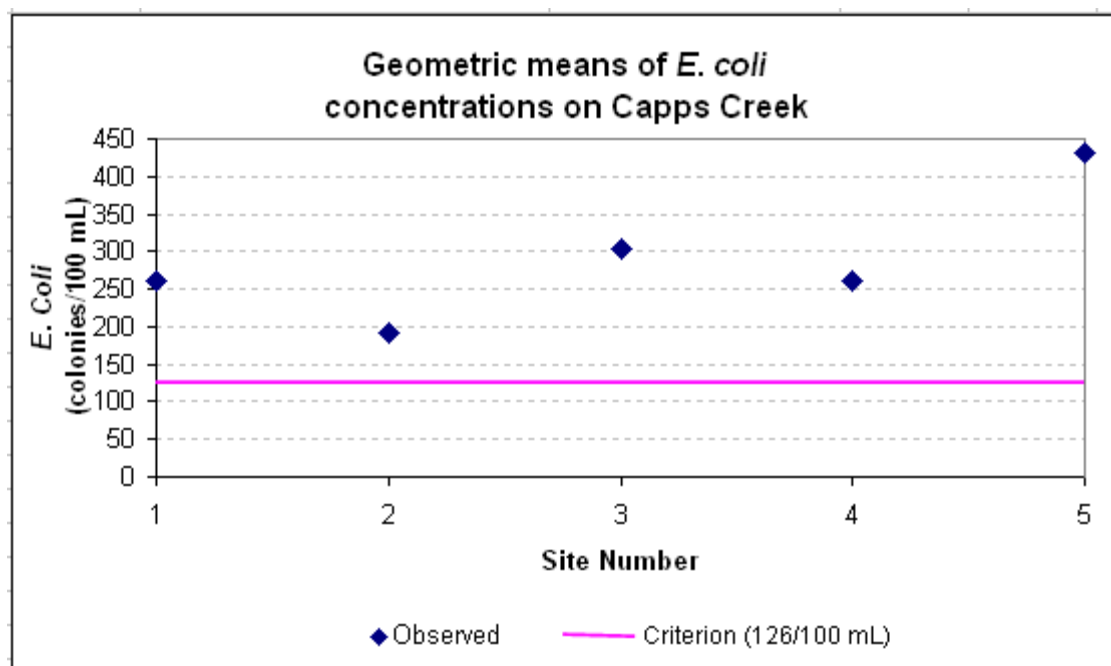
- Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C) state that the *E. coli* bacteria count shall not exceed 126 colonies per 100 milliliters of water (126 col/100 mL) for Category A and 206 col/100 mL for Category B waters. This count is the geometric mean during the recreational season (April 1- October 31) in waters designated for whole body contact recreation.

##### Background information and water quality data

Capps Creek is a rural stream in southwest Missouri that flows west to join Shoal Creek just after it enters Newton County. One of the attractions of this small stream is Jolly Mill, which is listed on the National Register of Historic Places. Capps Creek is designated as Category A for the whole body contact recreation use, which means it has swimming areas that are open to and fully accessible by the public.

Excessive amounts of fecal bacteria in surface water used for recreation are an indication of an increased risk of pathogen-induced illness to humans. Infections due to pathogen-contaminated waters include gastrointestinal, respiratory, eye, ear, nose, throat and skin diseases. *Escherichia coli*, or *E. coli*, are bacteria found in the intestines of warm blooded animals and used as indicators of the risk of waterborne disease from pathogenic (disease causing) bacteria or viruses. Most *E. coli* strains are harmless, but some can cause serious illness in humans and are occasionally responsible for product recalls. The harmless strains are part of the normal flora of the intestines, and can benefit their hosts by preventing the establishment of pathogenic bacteria within the intestine<sup>1,2</sup>. Missouri's bacteria criteria are based on specific levels of risk of acute gastrointestinal illness. The levels of risk correlating to these criteria are no more than eight illnesses per 1,000 swimmers in fresh water.

The Newton County Health Department conducted monitoring for *E. coli* in 2006-2007 on Capps Creek. This showed water quality criteria exceedances in both years. The graph below shows the geometric mean (combined data for all dates at that site) for five sites on Capps Creek.

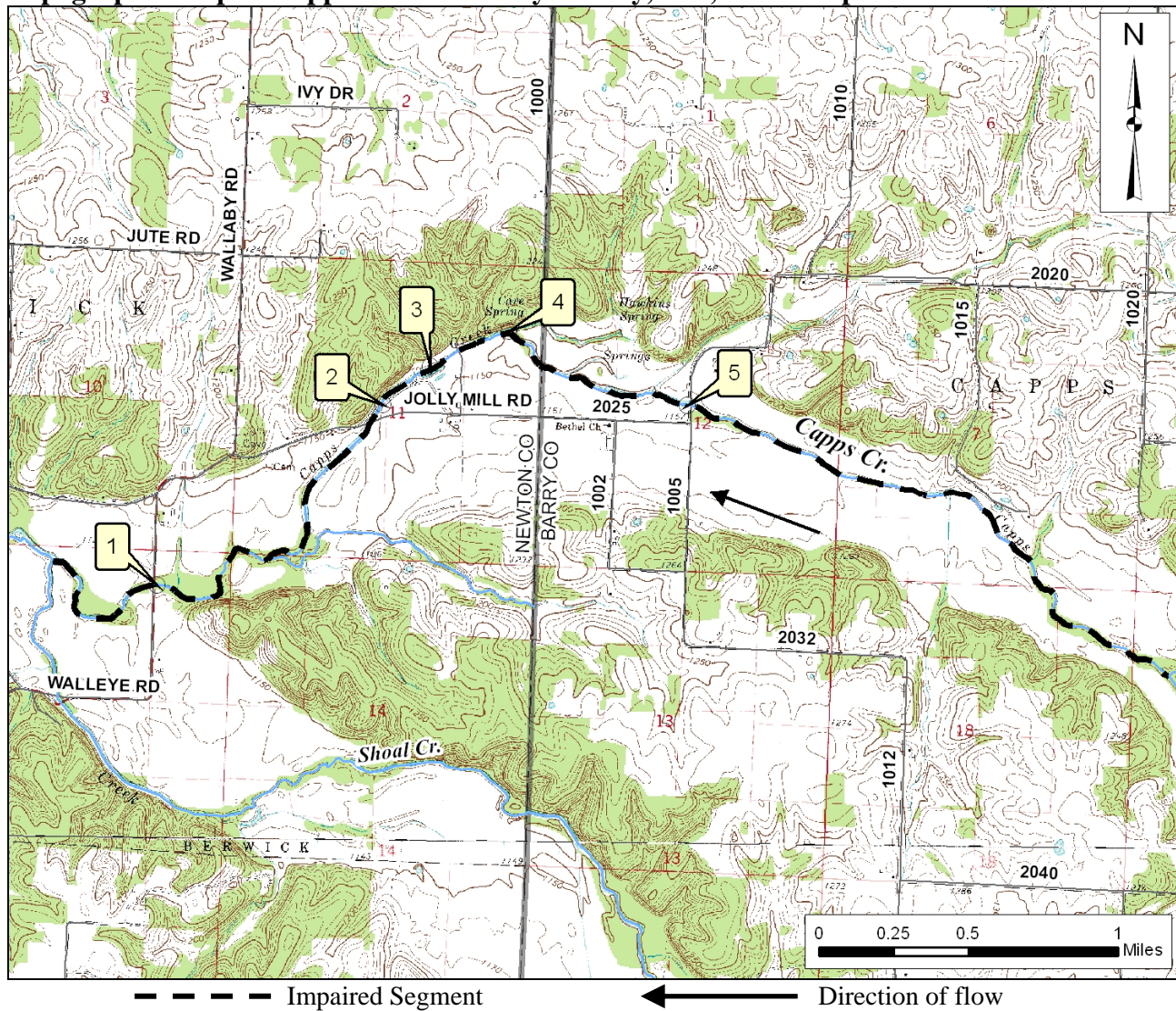


People can protect themselves from waterborne illness by avoiding contact with contaminated water. However, when swimming anywhere, it is wise to take commonsense precautions. These include washing hands before eating, showering after swimming and avoiding exposure to questionable water if you have open cuts or wounds.

<sup>1</sup> Hudault S, Guignot J, Servin AL (July 2001). "[Escherichia coli strains colonising the gastrointestinal tract protect germfree mice against Salmonella typhimurium infection](#)". *Gut* **49** (1): 47–55

<sup>2</sup> Reid G, Howard J, Gan BS (September 2001). "Can bacterial interference prevent infection?". *Trends Microbiol.* **9** (9): 424–8.

## Topographic Map of Capps Creek in Barry County, Mo., with Sample Sites



### Sample Sites

- 1 – Capps Creek at Walleye Road crossing
- 2 – Capps Creek near Jolly Mill Lane crossing
- 3 – Capps Creek near Jolly Mill Pond
- 4 – Capps Creek at Jolly Mill Park
- 5 – Capps Creek at Barry County Road 1005

### For more information call or write:

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Water Protection Program

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